

10/507,444

(FILE 'HOME' ENTERED AT 20:15:19 ON 17 SEP 2005)

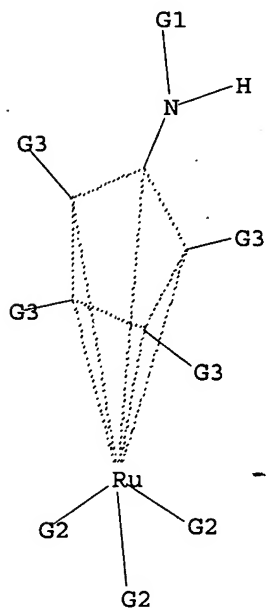
FILE 'REGISTRY' ENTERED AT 20:15:59 ON 17 SEP 2005

L1 STRUCTURE UPLOADED

=>.d l1

L1 HAS NO ANSWERS

L1 STR



G1 H, Co, Ak

G2 H, C, P, X

G3 Me, Et, n-Pr, i-Pr, n-Bu, i-Bu, s-Bu, t-Bu, Ph

Structure attributes must be viewed using STN Express query preparation.

=> s l1

SAMPLE SEARCH INITIATED 20:16:35 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 5 TO ITERATE

100.0% PROCESSED 5 ITERATIONS

0 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 5 TO 234

PROJECTED ANSWERS: 0 TO 0

L2 0 SEA SSS SAM L1

=> s l1 full

FULL SEARCH INITIATED 20:16:43 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 86 TO ITERATE

100.0% PROCESSED 86 ITERATIONS

13 ANSWERS

SEARCH TIME: 00.00.01

L3 13 SEA SSS FUL L1

=> fil caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

161.33

161.54

FILE 'CAPLUS' ENTERED AT 20:16:51 ON 17 SEP 2005  
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FILE COVERS 1907 - 17 Sep 2005 VOL 143 ISS 13  
FILE LAST UPDATED: 16 Sep 2005 (20050916/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 13  
L4 11 L3

=> d 1-11 bib abs

L4 ANSWER 1 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2005:320507 CAPLUS  
DN 143:43954  
TI Acceptorless, Neat, Ruthenium-Catalyzed Dehydrogenative Cyclization of Diols to Lactones  
AU Zhao, Jing; Hartwig, John F.  
CS Department of Chemistry, Yale University, New Haven, CT, 06520-8107, USA  
SO Organometallics (2005), 24(10), 2441-2446  
CODEN: ORGND7; ISSN: 0276-7333  
PB American Chemical Society  
DT Journal  
LA English  
AB The dehydrogenation of 1,4-butanediol to  $\gamma$ -butyrolactone catalyzed by soluble Ru complexes without solvent or a H acceptor is reported. An alkylphosphine version of Ru bis-phosphine diamine catalysts was prepared and is the longest-lived catalyst for the conversion of 1,4-butanediol to  $\gamma$ -butyrolactone. The catalytic production of  $\gamma$ -butyrolactone from 1,4-butanediol with this catalyst is simple to conduct, environmentally friendly, and highly efficient.  
RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2005:99449 CAPLUS  
DN 142:197677  
TI Method of preparation of optically active alcohols  
IN Kim, Mahn-Joo; Park, JaiWook; Chung, Yong Il; Choi, Jun Ho; Lee, Han Ki; Choi, Yoon Kyung; Kim, Daeho  
PA Postech Foundation, S. Korea; Posco  
SO PCT Int. Appl., 34 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005009935	A1	20050203	WO 2003-KR1494	20030725
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,			

LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,  
PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,  
TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,  
KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,  
FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,  
BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI WO 2003-KR1494

20030725

OS CASREACT 142:197677; MARPAT 142:197677

AB The present invention relates to a method for preparing chiral alc. having optical activity. More specifically, the present invention relates to a method for preparing (S)-chiral alc. with a high yield and a high optical purity by mixing achiral substrates such as racemic alc. or ketone with a combination of metal catalyst and protein hydrolase to perform a dynamic kinetic resolution reaction. Thus, to a Schlenk flask, 3.7 mg (Ph<sub>4</sub>C<sub>5</sub>NHCHMe<sub>2</sub>)Ru(CO)<sub>2</sub>Cl and 18  $\mu$ L t-BuOK solution (1 M in THF) was added and dried under the reduced pressure, followed by adding 1 mL toluene and then the resulting mixture was agitated for 1 h. After the toluene was removed under the reduced pressure, 9 mg stabilized subtilisin, 31.8 mg Na<sub>2</sub>CO<sub>3</sub>, 18  $\mu$ L 1-phenylethanol, 39  $\mu$ L 2,2,2-trifluoroethyl butyrate, and 0.5 mL THF were added and the mixture was agitated at room temperature for 3 days. After termination of the reaction, catalyst was filtered, the obtained filtrated solution was concentrated and separated using column chromatog. (silica gel, Et acetate/ hexane = 4:1) to give (S)-1-phenylethyl butyrate (I) % yield and optical purity 92% ee. (S)-(-)-phenylethanol was obtained by adding I and 2 equiv of K<sub>2</sub>CO<sub>3</sub> to 80% methanol solution and hydrolyzing at room temperature

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:642075 CAPLUS

DN 142:56490

TI Synthesis of aminocyclopentadienyl ruthenium chloride

AU Karvembu, Ramasamy; Choi, Jun Ho; Park, Jaiwook

CS Department of Chemistry, Pohang University of Science and Technology (POSTECH), Pohang, 790-784, S. Korea

SO Inorganic Chemistry Communications (2004), 7(8), 988-989

CODEN: ICCOFP; ISSN: 1387-7003

PB Elsevier B.V.

DT Journal

LA English

OS CASREACT 142:56490

AB The reaction of Ru<sub>3</sub>(CO)<sub>12</sub> with N-isopropyl-2,3,4,5-tetrabutylcyclopenta-2,4-dienimine led to the formation of [2,3,4,5-Bu<sub>4</sub>( $\eta$ 5-C<sub>4</sub>CNH<sub>i</sub>Pr)]Ru(CO)<sub>2</sub>Cl. The new complex has been characterized by <sup>1</sup>H NMR, <sup>13</sup>C NMR, IR and mass spectral data.

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:292259 CAPLUS

DN 141:6847

TI Lipase-catalyzed domino dynamic kinetic resolution of racemic 3-vinylcyclohex-2-en-1-ols/intramolecular Diels-Alder reaction: One-pot synthesis of optically active polysubstituted decalins

AU Akai, Shuji; Tanimoto, Kouichi; Kita, Yasuyuki

CS Graduate School of Pharmaceutical Sciences, Osaka University, Suita, Osaka, 565-0871, Japan

SO Angewandte Chemie, International Edition (2004), 43(11), 1407-1410

CODEN: ACIEF5; ISSN: 1433-7851

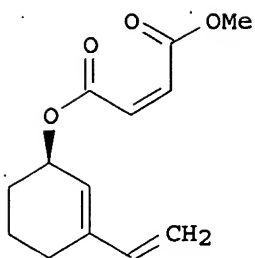
PB Wiley-VCH Verlag GmbH & Co. KGaA

DT Journal

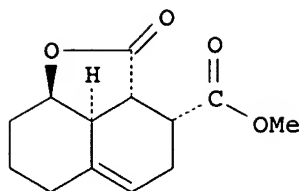
LA English

OS CASREACT 141:6847

GI



I



II

AB The use of a lipase and a ruthenium catalyst allows the direct preparation of polysubstituted decalins with high optical and chemical yields from racemic alcs. The lipase-catalyzed kinetic resolution of the racemic alcs., the ruthenium-catalyzed racemization of the slow-reacting enantiomers, and an intramol. Diels-Alder reaction of the resultant esters all occur under identical conditions. For example, the *Candida antarctica* lipase-catalyzed kinetic resolution and transesterification of 3-ethenyl-2-cyclohexen-1-ol with (2Z)-2-butenedioic acid 1-ethoxyethenyl Me ester gave a (2Z)-butenedioic acid [(1R)-3-ethenyl-2-cyclohexen-1-yl] ester (I) which was not isolated, but directly subject to cycloaddn. conditions. The di- $\mu$ -chlorodichlorobis[(1,2,3,4,5,6- $\eta$ )-1,3,5-trimethylbenzene]diruthenium-catalyzed intramol. Diels-Alder reaction of I thus gave to give a decalin, i.e., (-)-(2aS,3R,8aR,8bS)-2a,3,4,6,7,8,8a,8b-octahydro-2-oxo-2H-naphtho[1,8-bc]furan-3-carboxylic acid Me ester (II).

RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:121151 CAPLUS

DN 140:321067

TI Aminocyclopentadienyl ruthenium complexes as racemization catalysts for dynamic kinetic resolution of secondary alcohols at ambient temperature

AU Choi, Jun Ho; Choi, Yoon Kyung; Kim, Yu Hwan; Park, Eun Sil; Kim, Eun Jung; Kim, Mahn-Joo; Park, Jaiwook

CS National Research Laboratory of Chirotechnology, Department of Chemistry, Division of Molecular and Life Sciences, Pohang University of Science and Technology, Pohang, 790-784, S. Korea

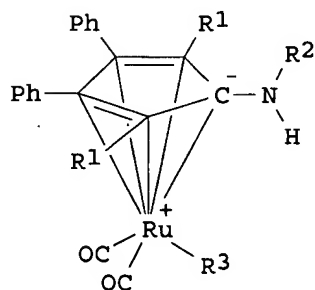
SO Journal of Organic Chemistry (2004), 69(6), 1972-1977  
CODEN: JOCEAH; ISSN: 0022-3263

PB American Chemical Society

DT Journal

LA English

GI



I

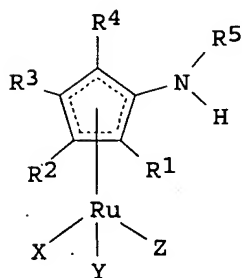
AB Aminocyclopentadienyl ruthenium complexes I [R1 = Ph; R2 = i-Pr (II), n-Pr, t-Bu, Ph, 4-O2NC6H4, 4-ClC6H4, 4-MeOC6H4, 4-Me2NC6H4; R3 = Cl; R1 = Me; R2 = i-Pr (III), Ph; R3 = Cl] which can be used as room-temperature racemization catalysts with lipase in the dynamic kinetic resolution (DKR) of secondary alcs., were synthesized from iminocyclopenta-2,4-dienes, Ru3(CO)12, and CHCl3. The racemization of (S)-4-phenyl-2-butanol showed that III was the most active catalyst, although the difference decreased in the DKR. II was used in the DKR of various alcs. such as allylic alcs., alkynyl alcs., diols, hydroxy esters, and chlorohydrins, which were

successfully transformed to chiral acetates. Mechanistic studies for the catalytic racemization, indicated that ruthenium hydride I [R1 = Ph; R2 = i-Pr; R3 = H (IV)] was the key species in the reaction. IV was the major organometallic species in the racemization of (S)-1-phenylethanol with II and potassium tert-butoxide. In a sep. experiment, (S)-1-phenylethanol was racemized catalytically by IV in the presence of acetophenone.

RE.CNT 109 THERE ARE 109 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2003:737767 CAPLUS  
DN 139:246121  
TI Preparation of aminocyclopentadienyl ruthenium complexes as racemization catalyst of chiral compound  
IN Park, Jaiwook; Kim, Mahn-joo; Choi, Jun Ho; Ahn, Yangsoo  
PA Postech Foundation, S. Korea  
SO PCT Int. Appl., 14 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003076449	A1	20030918	WO 2002-KR925	20020517
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	KR 2003073987	A	20030919	KR 2002-13809	20020314
	CA 2478410	AA	20030918	CA 2002-2478410	20020517
	EP 1483275	A1	20041208	EP 2002-728243	20020517
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
PRAI	KR 2002-13809	A	20020314		
	WO 2002-KR925	W	20020517		
OS	CASREACT 139:246121; MARPAT 139:246121				
GI					



I

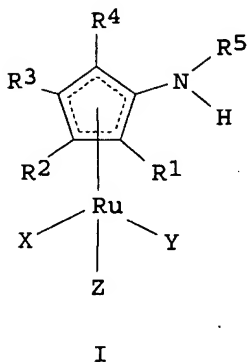
AB Preparation of novel aminocyclopentadienyl ruthenium complexes, I (R1-R4 = independently Ph, C1-5 alkyl substituted Ph, etc.; R5 = H, Ph, C1-5 alkyl substituted Ph, C1-5 alkyl, C3-7 cycloalkyl, C2-5 alkenyl, C2-5 alkynyl, etc.; X, Y, Z = independently H, halo, carbonyl, phosphine), useful as catalyst for racemization of chiral compound is described. Thus, TiCl4-mediated reaction of tetraphenylcyclopentadienone with isobutylamine

in PhMe gave N-isobutyl-2,3,4,5-tetraphenylcyclopentadieneimine which on treatment with Ru<sub>3</sub>(CO)<sub>12</sub> gave N-isobutylamino-2,3,4,5-tetraphenylcyclopentadienyl ruthenium dicarbonyl chloride (II). Reaction of II with Na<sub>2</sub>CO<sub>3</sub> in iPrOH gave N-isobutylamino-2,3,4,5-tetraphenylcyclopentadienyl ruthenium dicarbonyl hydride (III). II and III were used as chiral catalyst for racemization of (S)-1-phenylethanol.

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN  
AN 2003:737708 CAPLUS  
DN 139:261424  
TI Resolution of chiral compounds using aminocyclopentadienyl ruthenium catalysts  
IN Park, Jaiwook; Kim, Mahn-joo; Choi, Jun Ho; Ahn, Yangsoo  
PA Postech Foundation, S. Korea  
SO PCT Int. Appl., 21 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003076384	A1	20030918	WO 2002-KR926	20020517
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
KR 2003074851	A	20030922	KR 2002-13832	20020314
CA 2478408	AA	20030918	CA 2002-2478408	20020517
EP 1483229	A1	20041208	EP 2002-728244	20020517
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2005130282	A1	20050616	US 2003-507727	20020517
PRAI KR 2002-13832	A	20020314		
WO 2002-KR926	W	20020517		
OS CASREACT 139:261424; MARPAT 139:261424				
GI				



AB A chiral compound, particularly a chiral secondary alc., can be efficiently resolved under a mild condition by acylation with an alkenyl acetate in the presence of a novel aminocyclopentadienyl ruthenium complexes, I (preparation given; R<sub>1</sub>-R<sub>4</sub> = (un)substituted Ph, C<sub>1</sub>-5 alkyl, etc.; R<sub>5</sub> = H, (un)substituted Ph, C<sub>1</sub>-5 alkyl, C<sub>3</sub>-7 cycloalkyl, C<sub>2</sub>-5 alkenyl, C<sub>2</sub>-5 alkynyl, etc.; X, Y, Z = H, halo, CO, organophosphine), an enzyme catalyst, and a base. Thus, TiCl<sub>4</sub>-mediated reaction of

tetraphenylcyclopentadienone with isobutylamine in PhMe gave N-isobutyl-2,3,4,5-tetraphenylcyclopentadieneimine which on treatment with Ru<sub>3</sub>(CO)<sub>12</sub> gave title catalyst, N-isobutylamino-2,3,4,5-tetraphenylcyclopentadienylruthenium dicarbonyl chloride (II). II catalyzed resolution of 1-phenylethanol in presence of Na<sub>2</sub>CO<sub>3</sub>/KOBu-t/Candida antarctica lipase B and isopropenyl acetate gave 97% (R)-1-phenylethyl acetate with 99% enantiomeric excess.

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:679376 CAPLUS

DN 139:337584

TI (S)-Selective Dynamic Kinetic Resolution of Secondary Alcohols by the Combination of Subtilisin and an Aminocyclopentadienylruthenium Complex as the Catalysts

AU Kim, Mahn-Joo; Chung, Yong Il; Choi, Yoon Kyung; Lee, Han Ki; Kim, Daeho; Park, Jaiwook

CS National Research Laboratory of Chirotechnology, Department of Chemistry, Division of Molecular and Life Sciences, Pohang University of Science and Technology, Kyongbuk, 790-784, S. Korea

SO Journal of the American Chemical Society (2003), 125(38), 11494-11495  
CODEN: JACSAT; ISSN: 0002-7863

PB American Chemical Society

DT Journal

LA English

OS CASREACT 139:337584

AB A new procedure for the dynamic kinetic resolution (DKR) of racemic alcs. into single enantiomers is described. This procedure employs surfactant-treated subtilisin as an (S)-selective resolving catalyst and an aminocyclopentadienylruthenium complex as a racemizing catalyst. The DKR is performed best in the presence of an acyl donor such as trifluoroethyl butyrate in THF at room temperature. Eight simple secondary alcs. have been efficiently resolved with high optical purities and good yields. The subtilisin-based DKR is complementary in stereoselectivity to its lipase-based counterpart. For an acyl-carrying alc., both subtilisin- and lipase-based DKRs have proceeded equally well to give a pair of enantiomeric products (>99.5% ee each) with opposite optical rotations in high yields (94-95%).

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2003:74916 CAPLUS

DN 138:271794

TI Synthesis and Reactivity of Hydroxycyclopentadienyl and Aminocyclopentadienyl Ruthenium Alcohol Complexes

AU Casey, Charles P.; Vos, Thomas E.; Bikzhanova, Galina A.

CS Department of Chemistry, University of Wisconsin Madison, Madison, WI, 53706, USA

SO Organometallics (2003), 22(5), 901-903

CODEN: ORGND7; ISSN: 0276-7333

PB American Chemical Society

DT Journal

LA English

OS CASREACT 138:271794

AB Cationic aminocyclopentadienyl and hydroxycyclopentadienyl ruthenium alc. complexes were synthesized from reaction of the corresponding ruthenium chloride with AgBF<sub>4</sub> in the presence of an alc. Exchange rates of free alc. with hydroxycyclopentadienyl and aminocyclopentadienyl ruthenium benzyl alc. complexes were rapid (t<sub>1/2</sub> = 5-10 min) at -47°.

RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 10 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2002:772820 CAPLUS

DN 138:4680

TI Protonated Aminocyclopentadienyl Ruthenium Hydride Reduction of Benzaldehyde and the Conversion of the Resulting Ruthenium Triflate to a

Ruthenium Hydride with H<sub>2</sub> and Base

AU Casey, Charles P.; Vos, Thomas E.; Singer, Steven W.; Guzei, Ilia A.  
 CS Department of Chemistry, University of Wisconsin Madison, Madison, WI,  
 53706, USA

SO Organometallics (2002), 21(23), 5038-5046  
 CODEN: ORGND7; ISSN: 0276-7333

PB American Chemical Society  
 DT Journal  
 LA English  
 OS CASREACT 138:4680

AB Reaction of N-phenyl-2,5-dimethyl-3,4-diphenylcyclopenta-2,4-dienimine (6) with Ru<sub>3</sub>(CO)<sub>12</sub> formed two isomers of { [2,5-Me<sub>2</sub>-3,4-Ph<sub>2</sub>(η<sup>5</sup>-C<sub>4</sub>CNHPh)]Ru(CO)(μ-CO)}<sub>2</sub> (8-trans and 8-cis). Photolysis of 8 under a H<sub>2</sub> atmosphere led to the formation of the aminocyclopentadienyl ruthenium hydride [2,5-Me<sub>2</sub>-3,4-Ph<sub>2</sub>(η<sup>5</sup>-C<sub>4</sub>CNHPh)]Ru(CO)<sub>2</sub>H (9-H). 9-H reduced benzaldehyde slowly at 75° to give benzyl alc. and 8. Protonation of 9-H with triflic acid produced { [2,5-Me<sub>2</sub>-3,4-Ph<sub>2</sub>(η<sup>5</sup>-C<sub>4</sub>CNH<sub>2</sub>Ph)]Ru(CO)<sub>2</sub>H}OTf (11-H), which reacted rapidly with benzaldehyde at -80° to give benzyl alc. and [2,5-Me<sub>2</sub>-3,4-Ph<sub>2</sub>(η<sup>5</sup>-C<sub>4</sub>CNHPh)]Ru(CO)<sub>2</sub>OTf (9-OTf). Reaction of 9-OTf with H<sub>2</sub> and base led to the re-formation of 9-H. These reactions provide the transformations required for a catalytic cycle for hydrogenation of aldehydes.

RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2002:548947 CAPLUS  
 DN 137:311016

TI Aminocyclopentadienyl ruthenium chloride: Catalytic racemization and dynamic kinetic resolution of alcohols at ambient temperature

AU Choi, Jun Ho; Kim, Yu Hwan; Nam, Se Hyün; Shin, Seung Tae; Kim, Mahn-Joo; Park, Jaiwook

CS National Research Laboratory of Chirotechnology Department of Chemistry  
 Division of Molecular and Life Sciences, Pohang University of Science and Technology (POSTECH), Pohang, 790-784, S. Korea

SO Angewandte Chemie, International Edition (2002), 41(13), 2373-2376  
 CODEN: ACIEF5; ISSN: 1433-7851

PB Wiley-VCH Verlag GmbH  
 DT Journal  
 LA English  
 OS CASREACT 137:311016

AB Novel racemization catalyst is prepared, [RuCl(CO)<sub>2</sub>(η<sup>5</sup>-cyclo-C<sub>5</sub>Ph<sub>4</sub>NHCHMe<sub>2</sub>)] (1), which improves dramatically the ruthenium-enzyme tandem dynamic kinetic resolution (DKR) of secondary alcs. The DKR proceeds at room temperature with isopropenyl acetate as an acyl donor and requires less lipase than with racemization catalysts described earlier. The structure of 1 was determined by x-ray diffraction.

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT